

# Barnyard Manure and Composts



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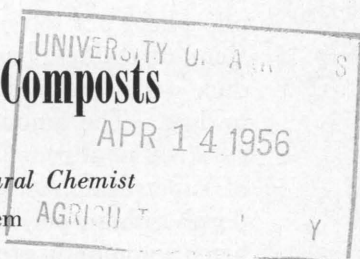
G. G. GIBSON, DIRECTOR, COLLEGE STATION, TEXAS

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# Barnyard Manure and Composts

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Texas A. & M. College System



Farmyard wastes and manures rate with the best soil conditioning materials available, if properly preserved and used. They have been allowed to wash away or be neglected on our farms, largely because they were not regarded worth the trouble of saving. Manure adds organic matter as well as moderate amounts of nutrients to the soil, and keeps land alive and productive.

## Preserving Manure

Manure should be scattered on and worked into the land while fresh. Over half of the fertilizing value of manure may be lost unless all of it, including both solids and liquids, is caught and worked into the soil at once.

Where spreading manure daily is impractical, it should be stored with a roof over it to prevent leaching. A tight concrete floor prevents loss by seepage. Likewise, the sides of the manure pile must be protected.

If a concrete or wooden housing is not available, manure may be piled in a heap and covered with dirt to serve as a watershed and help absorb the nitrogen. A foot of straw at the bottom of the pile aids in retaining liquid that may drain out of the manure. Dirt can be heaped up around the bottom of the pile, to keep the liquids in and to exclude air. This dirt around the manure heap also keeps livestock from scattering it and flies will not hatch in it.

## Reducing Odors

Use of superphosphate with manure improves its efficiency. The addition of from 30 to 50 pounds of 20 percent super-

phosphate per ton of manure is suggested. If sprinkled on the floor of stables, barns and chicken houses, it will serve to reduce odors and aid in conserving nitrogen that otherwise might be lost. The amount to apply depends upon the type of livestock or poultry. Normally, the use of from 30 to 50 pounds of superphosphate per cow per month, 10 to 12 pounds of superphosphate per head of sheep, or about 30 pounds per 100 hens per month greatly improves sanitary conditions.

Adding superphosphate to the manure compost reduces loss of nitrogen by leaching and volatilization and it increases the phosphorus content. This re-enforced manure is more effective and can be used in the same way as fresh manure.

## **Synthetic Manures or Composts from Wastes**

Artificial manures can be made from leaves, stubble, lawn clippings, gin wastes, sawdust and wastes that occur around the homestead. Several types of compost piles and equipment can be used. A simple, economical method would be to pile the clippings layer by layer, adding some fertilizer to each layer and thoroughly wetting until the pile is 4 to 6 feet high. Each layer should be from 10 to 12 inches thick. The edge of the pile should be higher than in the middle so that water will run into the pile and keep it moist rather than running off and allowing it to dry out.

To build the compost pile, select an area about 4 to 8 feet by 6 to 20 feet and pile the straw or such debris as you have to a depth of 12 inches. Wet the layer well but not enough for water to run. Spread one-fifth of fertilizer mixture described on page 6 and then add another 12-inch layer of waste straw or other material and one-fifth of the fertilizer. Wet again. Repeat until the pile is 4 or 5 feet high. After 2 to 3 weeks have passed, break the entire pile down and rebuild. Be sure to moisten uniformly throughout while restacking. Remember to keep the edges around the top higher than the middle. Repiling and moistening makes possible more uniform compost and more rapid rotting takes place. After 4 or 5 months time, the artificial manure or compost is ready for use.

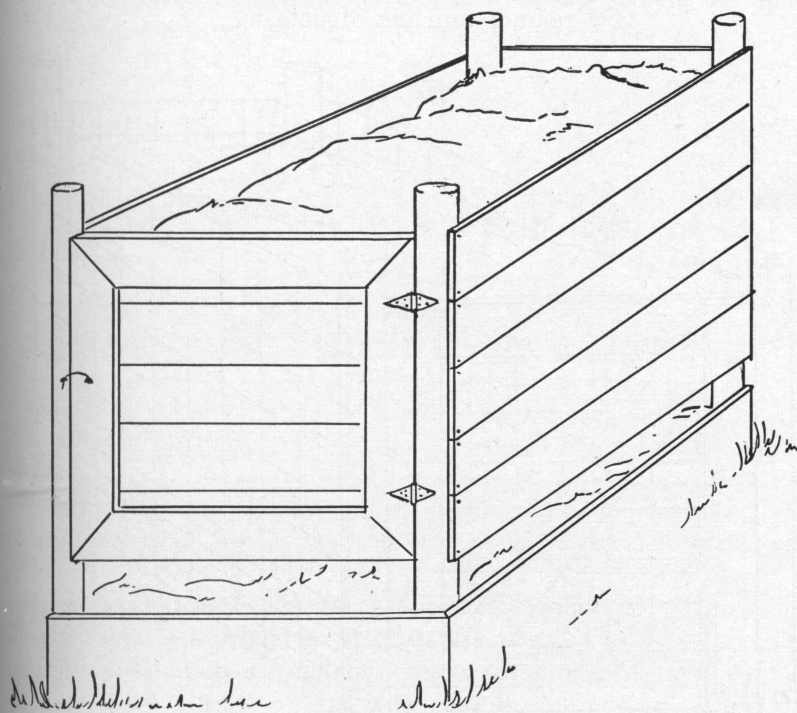
## Composting Manure Kills Weed Seeds

Composting manure and farm wastes for several months rots weed seed.

Where only a small amount of compost is to be made from yard waste or leaves, the compost pile should be made 3'  $\times$  6'. For each 6 inches of wet or moistened leaves or straw, apply one pound of 5-10-5 or 8-8-8 fertilizer sprinkled uniformly.

To keep compost piles from being scattered, side walls can be built up of board, or they can be enclosed by pickets or woven wire.

Boxes can be built either on the ground or on supports. Where mounted on the ground, the sides can be made removable or may be hinged so as to swing out and make emptying



Wood-box Type



easy. When mounted on supports the bottoms can slip out and discharge easily or the sides can be hinged.

### Chemical Aids to Composting

Several chemical mixtures are suggested for aiding the composting of wastes. If it is impossible to purchase chemical mixtures or to obtain materials from which these chemical mixtures may be made, any good commercial fertilizer can be used.

The easiest method of calculating the amount of chemicals for the mixture is to base everything on a ton of clippings or wastes. For each ton of dry waste or four tons of green material, the following mixture may be used:

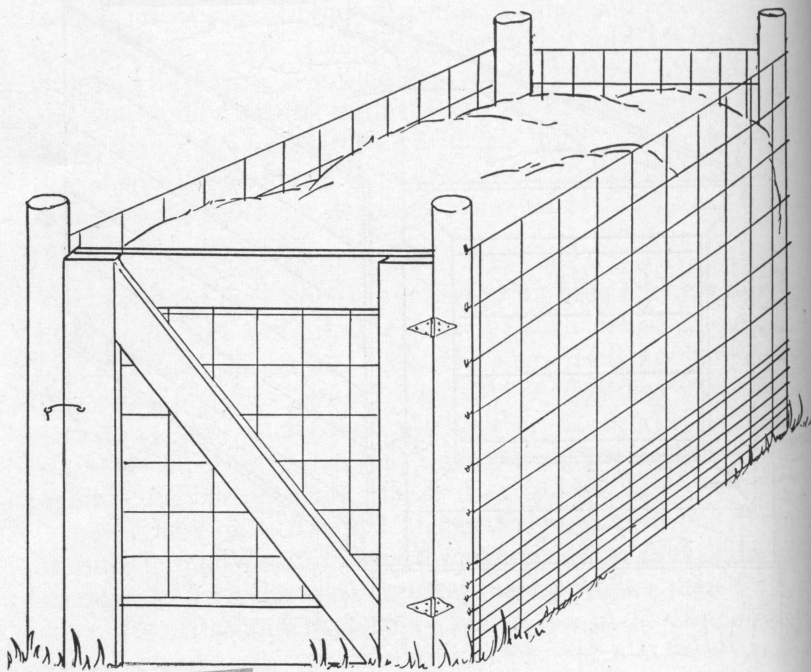
100 pounds ammonium sulfate

or

65 pounds ammonium nitrate

100 pounds 20 percent superphosphate

50 pounds muriate of potash



Wire Enclosure

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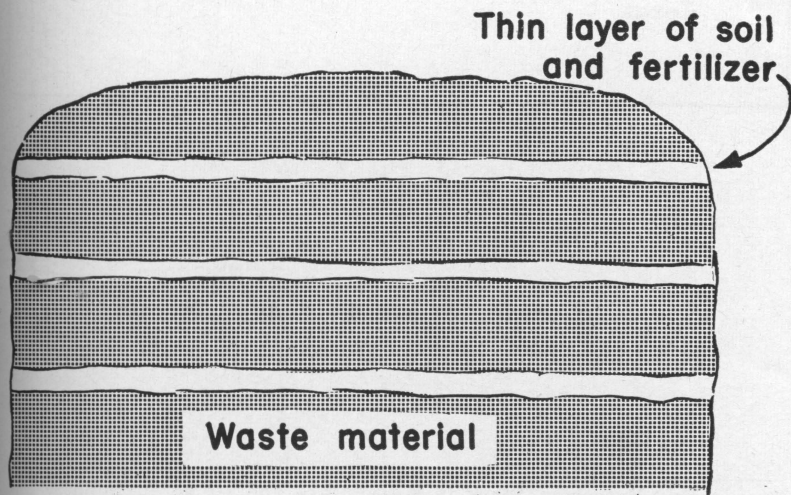
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In East Texas where soils are somewhat acid, it is suggested that 50 pounds of ground limestone or about 37 pounds of builder's lime be added. This will not be needed in areas where soils already are alkaline. For alkaline soils, 40 pounds of sulphur may be used instead of lime.

If the materials listed above are not available, 400 pounds of 5-10-5 or 8-8-8 fertilizer per ton dry waste or 4 tons of green waste will give equally good results.

Several bacterial concentrates to aid in composting are available on the market. However, if a compost pile is built properly with adequate moisture, the bacteria already present increase rapidly and the ultimate time for full composting is nearly the same.

(Note: It is better to use large quantities of compost over a small area than a small quantity over a large area. Therefore, arrange to have several compost beds so that the entire area may be covered in 2 or 3 years.)



Partial Pile

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Cooperative Extension Work in Agriculture and Home Economics, The Texas A. & M. College System and United States Department of Agriculture cooperating. Distributed in furtherance of the Acts of Congress of May 8, 1914, as amended, and June 30, 1914.  
10M—7-55, Reprint